"Power, The First Condition for Development and Prosperity"

Narrator: One of the miseries and problems caused by the three decades of war in Afghanistan was the destruction of all infrastructure by different warlord groups which did not even think about the future of Afghanistan. They destroyed everything that was related to the general population of Afghanistan. Destruction of the power network was one of these. It kept the people in darkness for almost two decades. Destruction of already limited power networks actually stopped Afghanistan's development and also disabled the private and non-private factories and made more than thousands of people that were supporting their families financially jobless.

Children Clapping: The City Power Came.

Narrator: The city power came and the old wish of the people of Afghanistan was realized. A wish that the people of Afghanistan never thought would come true. Restoration of power was the first priority of thenew transition government of Afghanistan with the support of its partners, and especially with the direct support of thepeople of the United States of America.With the efforts of the Ministry of Power and Water and Da Afghanistan Brishna Shirkat (DABS), the power was finally restored.According to the statistics provided by DABS, more than 41% of the Afghan urban populationhas access to city power. This electricity either comes from neighboring countries or is produced through hydroandthermopower systems.

Abdul Razi Samadi, COE of DABS: Energy is an important sectorfor the development of Afghanistan, and it is an important source of revenue all over the world.This is why the government of Afghanistan since the beginning has always been trying to encourage investments in the energy sector.

A Seller of Electric Suppliesin Kabul: During the Taliban regime, and even at the beginning of President Karzai's government, there wasa shortage of city power, andvery few electricsupplieswere sold. But since the city power came and it has been provided to people24 hours a day, people buy a lot ofelectric supplies, and now, Alhamdullah (thanks to God), we areselling a lot ofelectric supplies.

A Street Seller of Electric Supplies in Kabul: I am a street seller and I am selling cables. When there used to be shortages of city power, people were buying a lot fewer electric supplies.But since the power has come, we have been selling more electricsupplies than ever.

A Resident of Kabul: Before,we did not have city power. We were using oil lamps.Now we are satisfiedwith our government because they provided us with city power.

Narrator: One of the new power plants in Kabul is the Tarakhil power plant. Its construction started in 2007. This power plant is the onlymodern power plant in the country and also in neighboring countries. Itwas built with the financial support of the people of the United States of America.Itwas commissioned in 2009 andhas the capacity to produce approximately 105 MW of power per day.

Mohammad Asif Neyazi, Head of Tarakhil105 MW Power Plant: The construction of this power plantstarted in 2007 in the area of Tarakhil. The power plant has 18 engines which are used in three different sections.Every section can produce 35 MW. In total, the power plant can produce105 MW.

This power plant is a back-up for the Kabul power plant. If a technical problem occurs in one of the hydro- or exported power systems, then this power plantisimmediately turned on.Usually, if thereisn't any technical problem, then we turn it on following our management's request: during peak times in the morning, afternoon and evening,and in support of the Kabul power plant.

The construction and assembling of the Tarakhil power plant was completed with the financial support of the United States of America through USAID.

[Rolling text: The US Agency for International Development (USAID) is an agency of the United States Government in charge of implementing and funding reconstruction and development programs in countries such as Afghanistan, which are funded by the American taxpayers.]

The construction of this power station started in2007.In 2009,it was completed and handed over to DABS. Its operationsofficially startedat the end of 2009.

Safiullah Ahmadzai,Technical Director of the 105 MW Power Plant: This is the 105 MW station.Its actual capacity is 105 MW. This power plant was made with the financial support of the United States Agency for International Development (USAID).

This section is the engines' room. These engines are made bythe German brand Caterpillar.

The control system of these engines is highly adjusted:the rally protection system, ASYCUDA system, Arriva and Deckard are advanced systems and it's a new technology. We can also monitor the engines' systems, and we can find out easily on this screen which activities are going on in which system. For instance, we can see exhaust gas and the heat of each cylinder.We also can see the heat of the generators.

Now, we are going to the control room, where the 105 MW station is being controlled.We can automatically turn on the engines from here as well as from the engines room. We can monitor all the systems and we can easily find out technical problems.

Now, we are going to theArriva control system.Two cables come from the North.One is 146, and the other is 147. 143 and 145 are from the Mahipar and Naghlo power plants.

The first tank contains water to control the fire.It has an automatic control system so that we can easily control the fire.

We are now at the sub-station section.This section is usually full of transformers, switches and a control room. These three blocks have separate transformers. These transformers automatically increase the power from 11 KV to 110 KV and then synchronize it to system.

Roseann Casey, Division Chief, Energy & Water, USAID: There is also, the power that can be generated here in Tarakhil, this is a generation plant that the US government funded. It was finished in 2009.This is run ondiesel power rightnow; it will be run on heavy fuel oil in the future. At the moment it's not as cost competitive as imports, but this is a very vital facility. It's also really useful to use as a training facility, so that there is more and more Afghan people who are developing the trade, the skills, the technical knowledge to run the power sector. We are going to require a lot more highly technically qualified, skilled labor in Afghanistan. So this facility provides power and also provides the perfect training groundfor a lot of new labor that will be running the system for years to come.

Narrator: To control the pressure of power distribution in the country, a system with high voltage had to be installed. This was done. A pressure control computerin line with international standards was installed in the heating machine. And now this computer is operational. Itwas made with the help of the people of the United

States of America for the Afghanistan people so that all the power plants across the country can be controlled.

Wakil Nasseri, Manager of Test and Control Project at Tarakhil: This section isthe national load control center. Fortunately, this is the first project in Afghanistan that was made in high quality to test and control the quality of power. This project is currently connected to 17 sites ofDABS, which include substations, power stations, and switch stations.In every substation and power station, we have installed the fully equipped ASYCUDAsystem. Through the OPGW cable and the transmission line of North East Power System, "NEPS", the power is transferred from several sites to the center of power, "NLCC".

Narrator: In addition to the central office of KTPP, four additional power control systems are installed in different areas: the substation of Kabul in the North, the substation of Chemtala Desert, the substation of Pul-e-Khumri, and the substation of Naeb Abad in Hairatan. These substations can control the extra pressure of power that comes from abroad. Theyhave an important system of power control, which is called reactive power compensation. They were made with the financial support of the United States of America. The purpose of these projects is to bring a safe system of power across the country.

Wakil Nasseri, Manager of Test and Control Project at Tarakhil: The reactive power compensation project started at the beginning of 2010, and was completed in mid-2011. It was conducted with the financial support of the United States of America, and it is fortunately a successful project in the energy sector. The reactive power compensation project had positive impacts.Itprovided the Afghan people with safe, standardenergy, and the highest voltage ever.

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Michael Tennyson, Electrician Engineer: We did the design of the power plant, the substation, mostly affiliated with substation, construction installation and testing. So, we built a substation for Tarakhil and then, following the substation, we came right into the reactive power compensation, and we did that at four substations. Kabul North here where we are at is the last, the most southern point in the NEP system. And here we have a 20 MVR capacitor bank.And going further

North, all the way up to Naeb Abad, we had three reactors.And coming South,there are two more capacitor banks at Pul-e-Khumri and there is three at Chemtala.

Narrator: In addition to Afghan engineers and technicians, foreign advisors and trainers also work at power plants. Foreign advisors and trainers provide trainings to Afghan engineers and technicians in different aspects of operating these machines, so that Afghans will be able to have the responsibility of these machines in the near future. The foreign trainers and advisors train the Afghan engineers and technicians both theoretically and practically on the technical and other important aspects of the machines, so that Afghans will be able to always keep the machines working and also save the future wealth of Afghanistan.

Robert Mansfield, Expert Trainer in Power Plant: My job is to train these guys to run this power plant.So we have been doing training, mostly one system at a time, and as wego through the systems, we go through the prints, we go through the controls.And what we have done today is some control wiring to get them familiar with the kind of controlsthat they do have and the mix of voltageson the control circuits.

A Power Plant employee: Our training with Mr. Robert started in March 2011. The training was quite useful.We have learned about the control circuits.He explained the symbols to us and then he taught us how to connect the control circuitswith each other.

Jack Flower, Expert Trainer in Technique: We have BV mechanics here.We also have a DABS mechanical training team; we have them over here.And we also have them in power box C. We are doing lube oil separator PMs, preventing maintenance,that we do every 4 000 hours or 6 months whichever comes first. This is our workshop.We have set it up with a tool room where we can control all our tools to make sure they get checked back in.We check them out in the morning, when they are done in the evening they bring them back in, clean, and the gentleman in the tool room,Edris, he checks them back in and makes sure everything gets returned, so nothing gets left out on the job.

A Power Plant employee: When we started working here, the power plant was entirely managed by foreigners.Now, more than 60 to 70 % of the overall management of the power plant is done by Afghans.

Abdul Razi Samadi, COE of DABS: One of DABS' achievements is that it is developing everyday.In particular, we have been able to install power plants in

Kabul remote areas and districts very quickly.Today, we are going to Kapisa, one of the provinces that never had power and which today gets power through DABS and its staff. Energy projects take time, because many studies need to be conducted, such as economic surveys and technical studies. It is not easy, but we are achieving it.

Roseann Casey, Division Chief, Energy & Water, USAID: Power is one of the most important factors in developing the economy of Afghanistan. There is a lot of work going on in the agricultural sector; there is a lot of work going on in trade and in small business, but all of those still somewhat depend on reliable, affordable power to be available for those businesses to thrive. So, energy is really at the center of economic growth.

Narrator: Power is very valuable in the life of Afghans. Having improved power plants and the distribution of power in major provinces of Afghanistan, and the creation of computerized billing systems for energy distribution have all been significant achievements towards development and progress in Afghanistan. In addition, efforts for solving the problem of power nationwide continue, and quick progress and development in the energy sector will take place very soon in all provinces and districts of Afghanistan.The Afghan people, who benefits from electricity in their villages and cities, thank the international community and especially the people of the United States of America for their financial support.